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Sano Computational Medicine Seminars

Monday, 10 January 2022, 14:00-15:30 (CET)

Join us via Zoom: https://seminar.sano.science/

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Modelling the venous system in health and disease

Abstract

The venous system plays an important role in the function of the healthy cardiovascular system. There are several aspects of the mechanics and haemodynamics in the venous system which are particularly important in determining the development of disease and the effectiveness of treatments for venous disease. This talk will introduce several of these topics with examples of application of modelling approaches to improve understanding of the venous system. This includes venous valve function and the development of deep vein thrombosis (DVT), prevention of DVT using pneumatic compression and the interaction of the superficial, deep venous circulation and the calf muscle pump. Conclusions will focus on future opportunities for application of modelling to the venous circulation.

Dr. Andrew Narracott is a member of the Mathematical Modelling in Medicine Group within the Department of Infection, Immunity and Cardiovascular Disease at the University of Sheffield. He is also the Director of Operations for the Insigneo Institute for in silico medicine (insigneo.org), a collaboration between the University of Sheffield and Sheffield Teaching Hospitals NHS Foundation Trust, established in 2012. Insigneo brings together a multidisciplinary network of over 260 academics and clinicians with expertise in biomedical imaging, healthcare data, computational modelling, and digital healthcare technologies.

His work covers modelling and simulation of the cardiovascular system and model validation using both in vitro and in vivo experimental methods.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 857533 and from the International Research Agendas Programme of the Foundation for Polish Science No MAB PLUS/2019/13.

European Funds Smart Growth | Republic of Poland | FNP Foundation for Polish Science | European Union European Regional Development Fund

He has a particular interest in the behaviour of the venous system in health and disease and the potential clinical impact of developing of an improved quantitative understanding of these effects.

He has been involved with a range of projects including the VPH-CaSE Marie Skłodowska-Curie Innovative Training Network (https://cordis.europa.eu/project/id/642612), the CompBioMed Centre of Excellence (https://www.compbiomed.eu/) and he is Sheffield PI for the Sano H2020 Teaming project.

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